



cost OFFICE

European **CO**operation in **S**cience and **T**echnology

Caroline M. Whelan

Science Officer

Materials, Physical and Nanosciences

Natural Science Cluster

COST Office, Brussels



The COST mission

Strengthen Europe in **scientific and technological research** for peaceful purposes through the support of **cooperation and interaction** between European researchers

The COST programme, based on an **inter-governmental** agreement, is a long-running, economical and highly successful way to **spread awareness and build networks** between Europe's researchers

It reflects the human dimension of science, helping researchers to share not only the **results** of their work but also their **aims and methods**

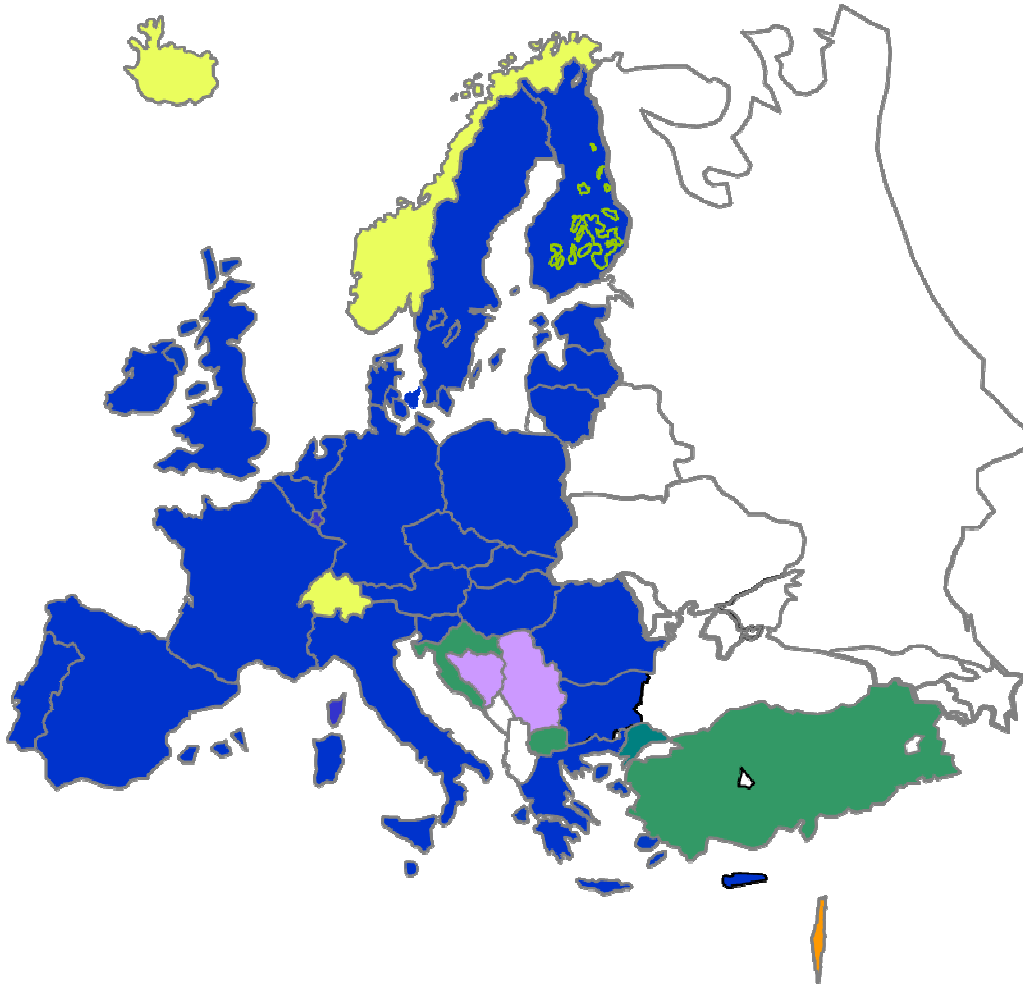
A brief history of COST

- Oldest and widest running European **intergovernmental network** for cooperation in research in Europe
- **Established** by Ministerial Conference of 19 European States in **1971**, Brussels, as a Framework for coordinating nationally funded research in Europe, pre-dates
 - 1974 European Science Foundation
 - 1983 First Framework Programme
 - 1985 Eureka Programme
- From 19 countries in 1971 to currently **36 COST countries with 1 cooperating state** & International organizations and research institutions from **non-COST countries**
- From 7 Actions in 1971 to almost **250 Actions running**, networked research projects
- From 7 Domains in 1971 to **9 Domains** plus a trans-domain

COST main characteristics

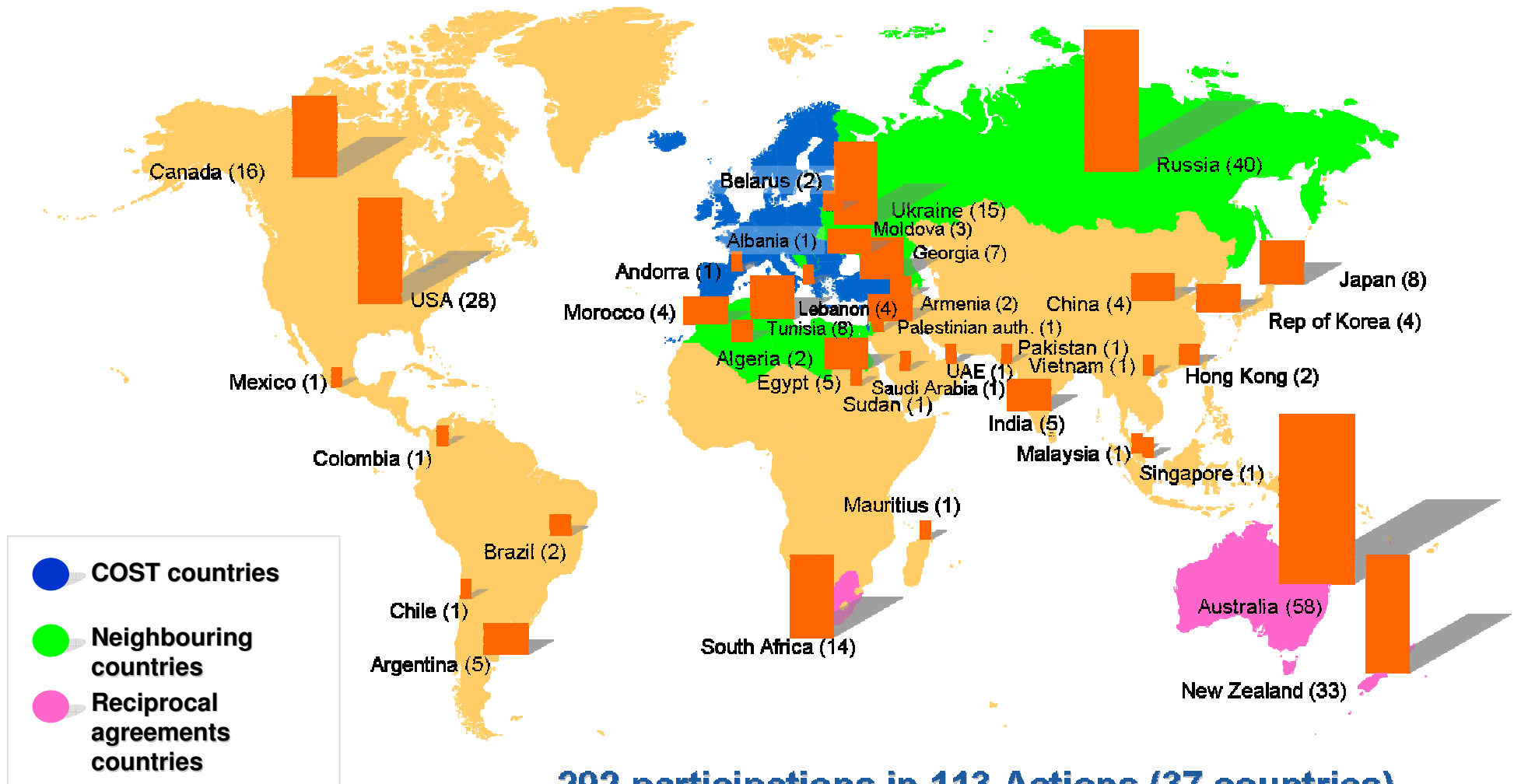
- **“Bottom-up” approach.** The initiative of launching of a COST Action comes from the researchers themselves. **Basic & applied research** as well as activities of public utility. *No fixed programmes and priorities, equal access via OPEN CALL*
- **Flexible ‘à la carte’ participation.** Only the countries interested in the Action **sign the relevant “Memorandum of Understanding”** – MoU. A minimum number of 5 signatures is required.
- Networks based on funded (research) projects – **national responsibility**
- Multi-disciplinary, **9 Domains plus Trans-Domain**
- **Pan-European dimension**, open to **global cooperation** of mutual interest, bridging research communities, enabling agent
- **Equality of access.** Participation is open also to the scientific communities of countries not belonging to the EU

36 COST Countries & 1 Co-operating State



- ◆ **The 27 EU Member States**
- ◆ **EFTA Member States**
 - ▶ Iceland
 - ▶ Norway
 - ▶ Switzerland
- ◆ **Acceding & Candidate Countries**
 - ▶ Croatia
 - ▶ FYR of Macedonia
 - ▶ Turkey
- ◆ **Potential Candidate Countries**
 - ▶ Bosnia and Herzegovina
 - ▶ Republic of Serbia
- ◆ **COST Co-operating States**
 - ▶ Israel

COST Actions: global participation (status: November 2009)



292 participations in 113 Actions (37 countries)

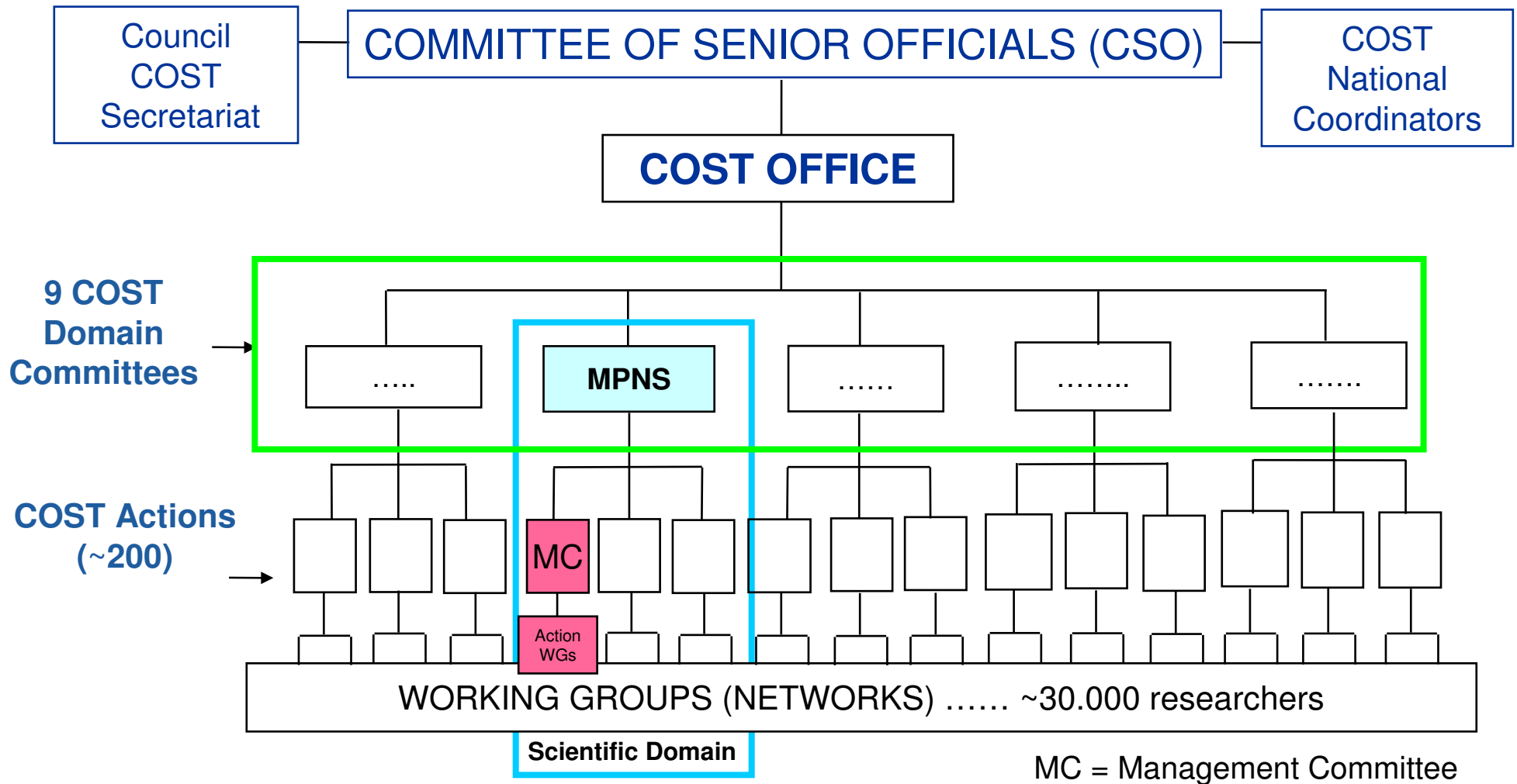
Special budget line in the COST system to facilitate collaborations

9 Scientific and Technical Domains

- Biomedicine and Molecular Biosciences (BMBS)
- Food and Agriculture (FA)
- Forests, their Products and Services (FPS)
- **Materials, Physical and Nanosciences (MPNS)**
- Chemistry and Molecular Sciences and Technologies (CMST)
- Earth System Science and Environmental Management (ESSEM)
- **Information and Communication Technologies (ICT)**
- Transport and Urban Development (TUD)
- **Individuals, Society, Culture and Health (ISCH)**

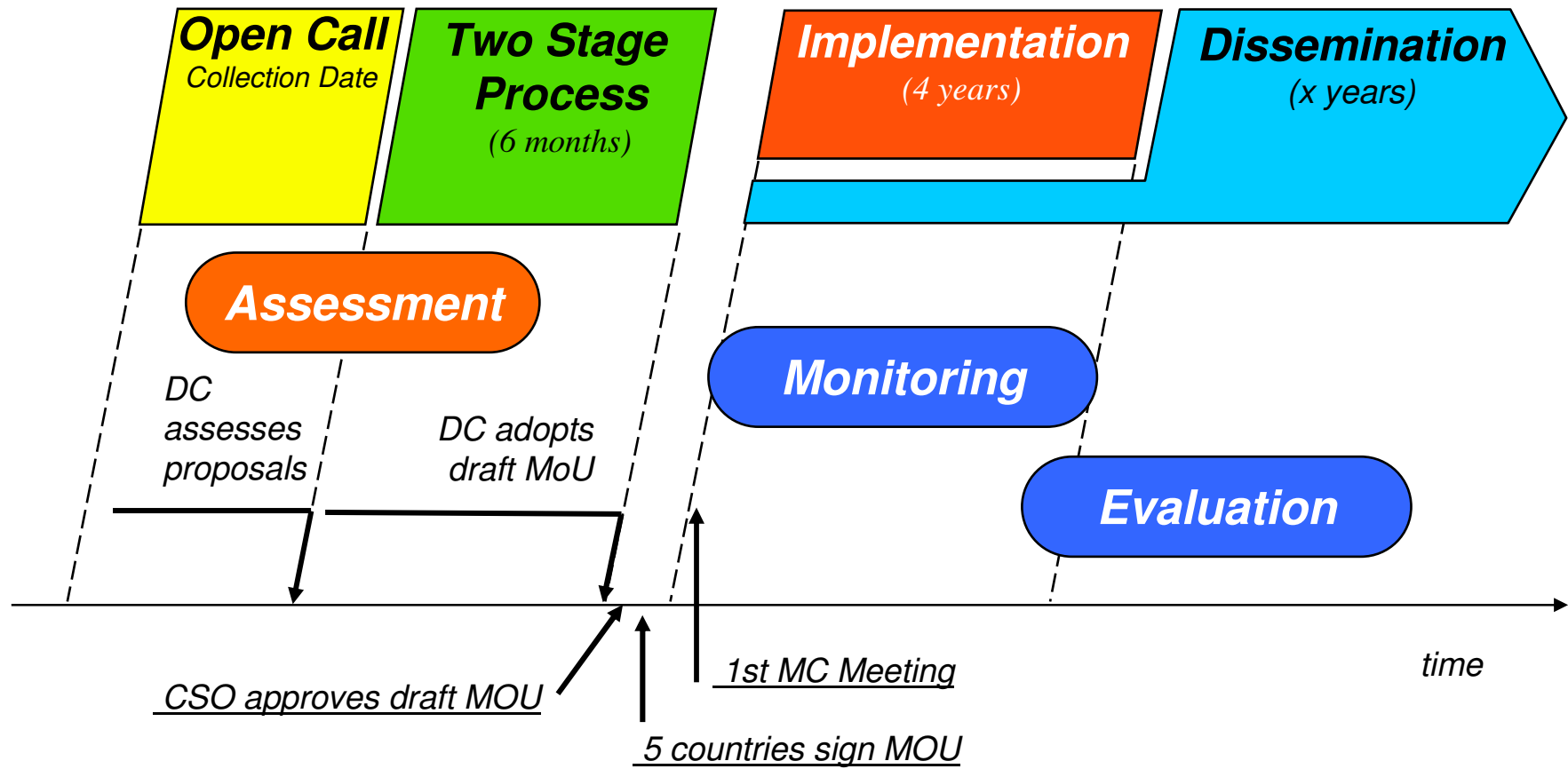
- *Also Trans-Domain (TD)*

What is a COST Action?



MPNS – currently 25 running + 3 standby Actions

COST Action Life Cycle



Assessment criteria – Preliminary Proposals

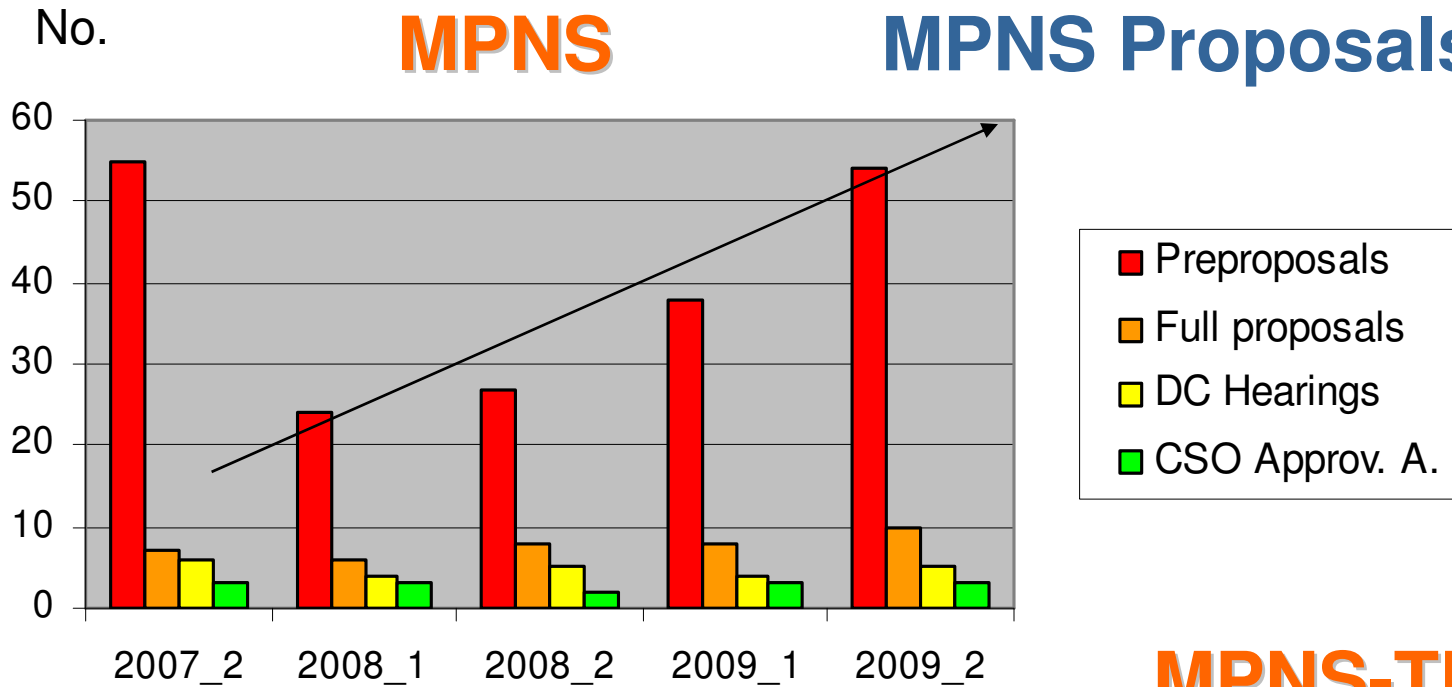
I.1	<p>RIGHT FOR COST? Is COST the best mechanism for achieving the Action's objectives? A SCORE OF 2 OR 1 AUTOMATICALLY TRIGGERS LOW SCORES IN THE FOLLOWING CRITERIA</p>	<p>yes no <input type="checkbox"/><input type="checkbox"/><input type="checkbox"/><input type="checkbox"/> 4 3 2 1</p>
I.2	<p>SCIENCE Does the proposed Action address real current problems/scientific issues?</p>	<p>yes no <input type="checkbox"/><input type="checkbox"/><input type="checkbox"/><input type="checkbox"/> 4 3 2 1</p>
I.3	<p>INNOVATION Is the proposed Action innovative?</p>	<p>high low <input type="checkbox"/><input type="checkbox"/><input type="checkbox"/><input type="checkbox"/> 4 3 2 1</p>
I.4	<p>IMPACT Would the proposed network make a significant difference in terms of knowledge, capacity building, social impacts, etc?</p>	<p>yes no <input type="checkbox"/><input type="checkbox"/><input type="checkbox"/><input type="checkbox"/> 4 3 2 1</p>
I.5	<p>PRESENTATION Is the proposed Action presented in a clear and understandable way?</p>	<p>yes no <input type="checkbox"/><input type="checkbox"/><input type="checkbox"/><input type="checkbox"/> 4 3 2 1</p>

A	CRITICAL CRITERIA	
A.1	IS THIS RIGHT FOR COST NETWORKING OF EUROPEAN NATIONAL RESEARCH TEAMS? Is COST the right funding mechanism for achieving the proposal's objectives? A SCORE OF 2 OR 1 AUTOMATICALLY TRIGGERS REJECTION	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
A.2	IS THE PROPOSAL PRESENTED IN A CLEAR, CONVINCING, AND APPROPRIATE WAY? A SCORE OF 2 OR 1 AUTOMATICALLY TRIGGERS REJECTION	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
B	SCIENCE	
B.1	Does the proposed Action address real current problems/scientific issues?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
B.2	Does the proposed Action show awareness of the state-of-the-art of the relevant scientific/ technical fields?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
B.3	Is the proposed Action innovative?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
C	IMPACT	
C.1 A	If the proposed Action aims primarily to meet European <u>economic or societal needs</u> , how likely is it to achieve useful impacts?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
C.1 B	If the proposed Action aims primarily to contribute to the development of the <u>scientific or technological field</u> , how likely is it to achieve useful impacts?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
C.1 C	If the proposed Action aims BOTH to meet European economic or societal needs, AND to contribute to the development of the scientific or technological field, how likely is it to achieve useful impacts?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
C.2	Are there clear plans for stimulating the production of high quality outputs?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
C.3	Is attention given to the potential application of results (including, where appropriate, fostering their commercial exploitation)?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
D	STRUCTURE AND ORGANISATION	
D.1	Are the workplan and organisation appropriate?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
D.2	Are the time schedule and the setting of milestones appropriate?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
D.3	Are appropriate plans made for monitoring and evaluating the achievement of objectives?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
E	CONTRIBUTION TO WIDER COST GOALS	
E.1	How well does the proposed Action aim to involve early stage researchers?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
E.2	How well does the proposed Action aim at gender balance?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1
E.3	Will the proposed Action attract interest from a wide range of European countries?	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> 4 3 2 1

Assessment
criteria –
Full
Proposals

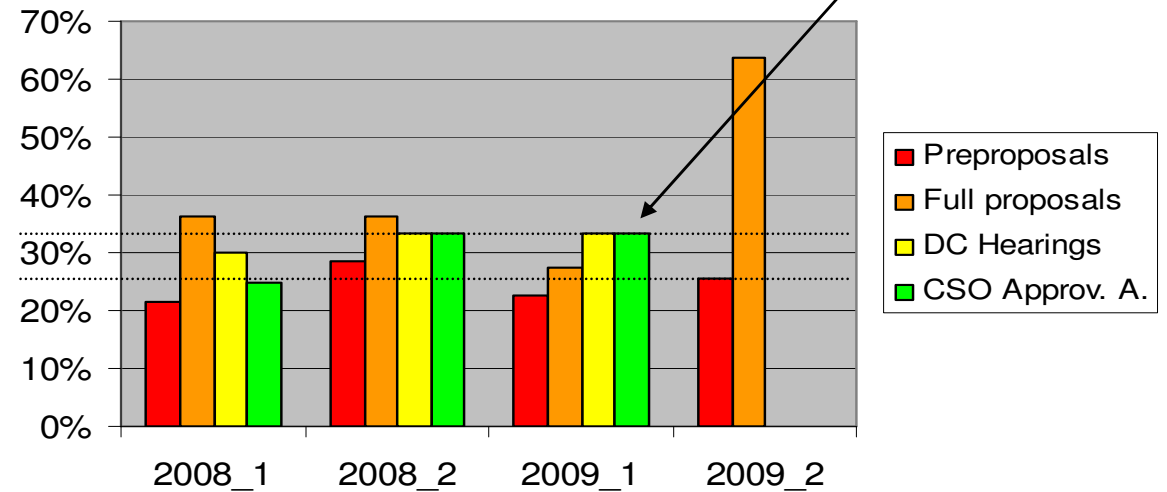
MPNS Proposals in Open Calls

MPNS



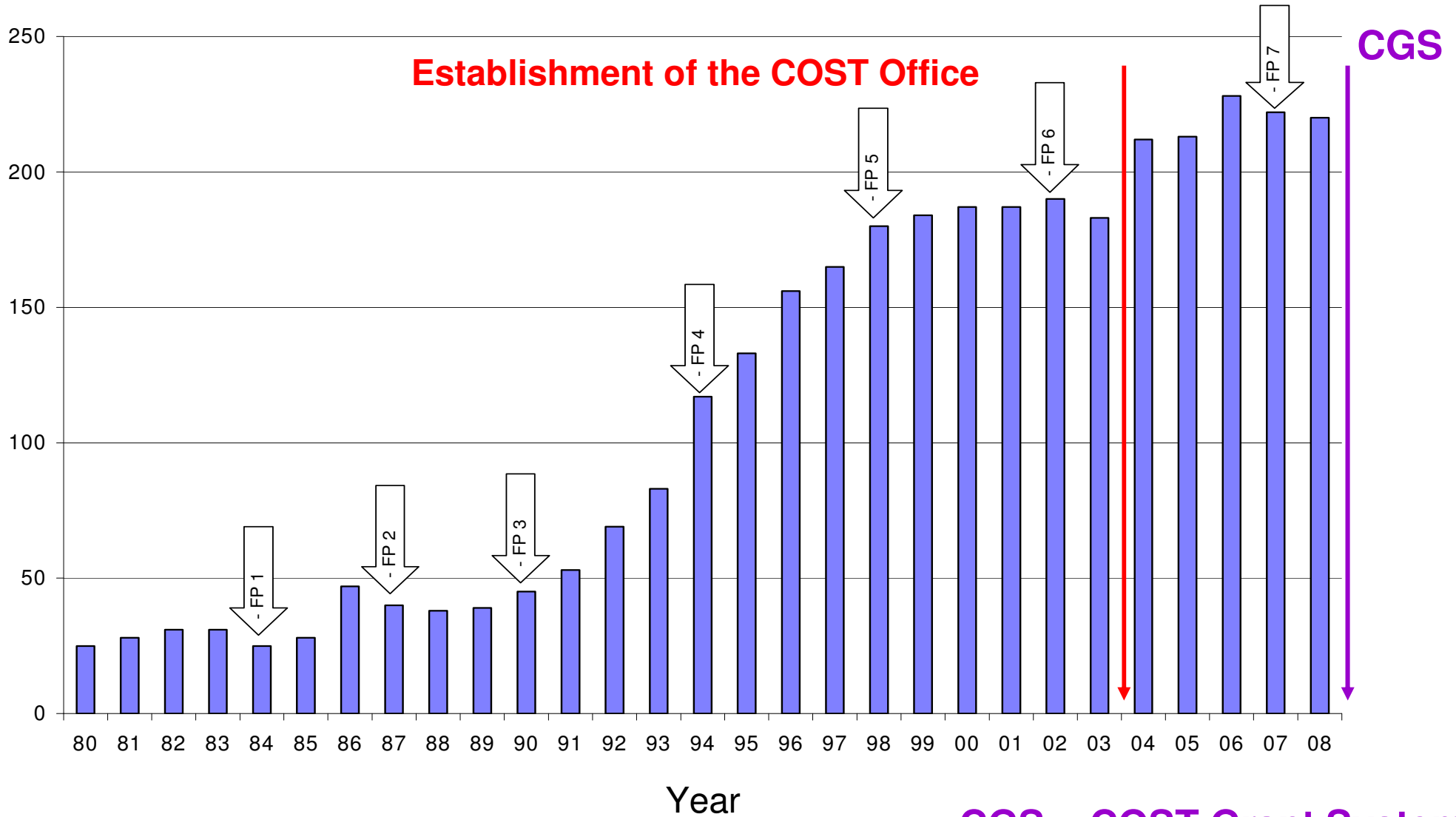
TD0906

MPNS-TDP



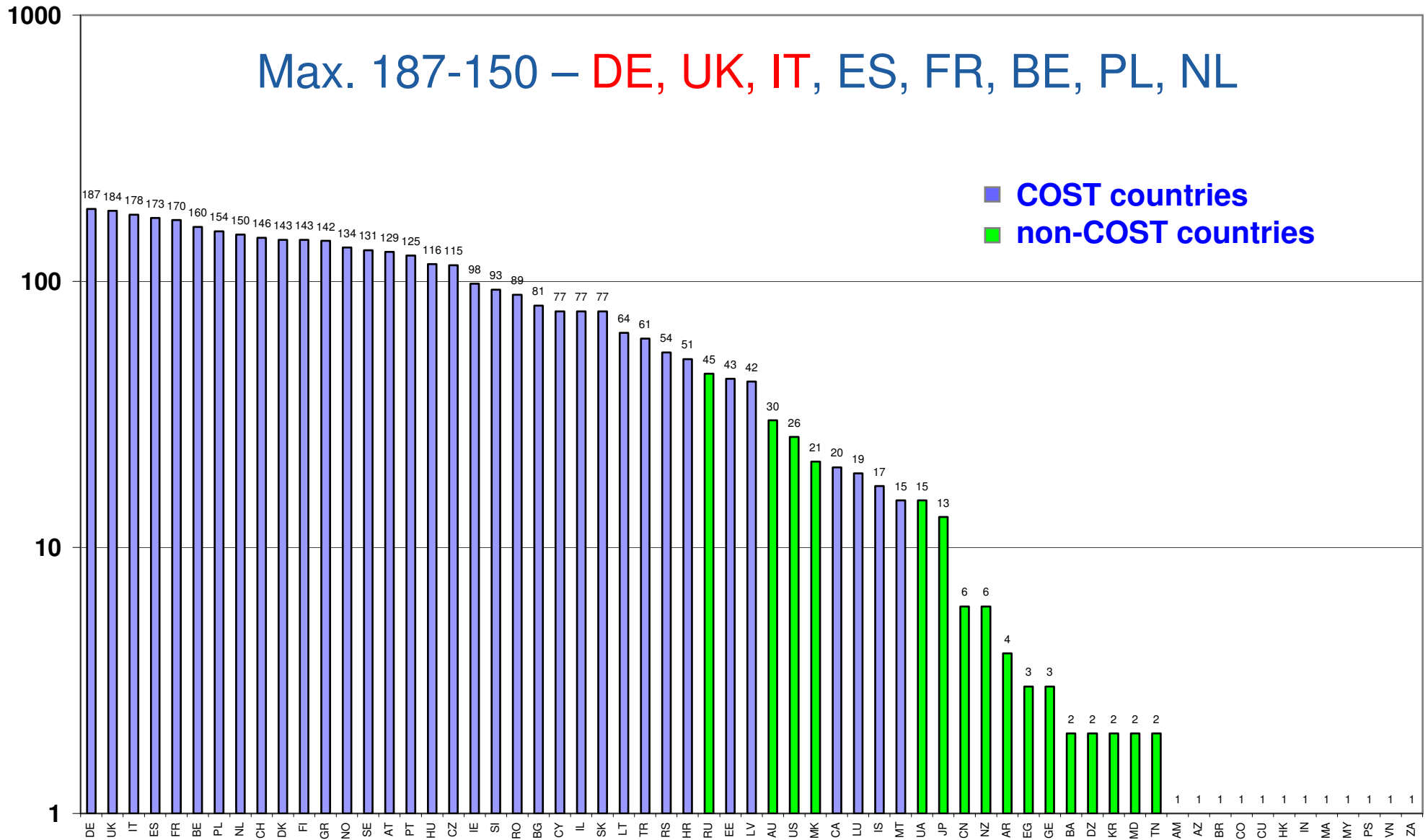
Comparison of performance of MPNS proposers in 5 Open Calls in terms of numbers of applications within the preproposal, full proposal, DC hearings and CSO approved Actions stages of the Open Call

COST Actions – yearly evolution (1980-2008)



CGS = COST Grant System

COST Actions – Participation by country (May 2008)



What is funded by COST?

- **COST Actions:** A network of (nationally) funded projects (min. 5 participating COST countries) receive a financial contribution based on a **joint work programme** (4 years) for:
 - Science management / working group meetings
 - Scientific workshops and seminars
 - Short Term Scientific Missions (STSMs)
 - Training Schools and Research Conferences
 - Dissemination and Publications

Average funding +/- 100 000 € per year per Action

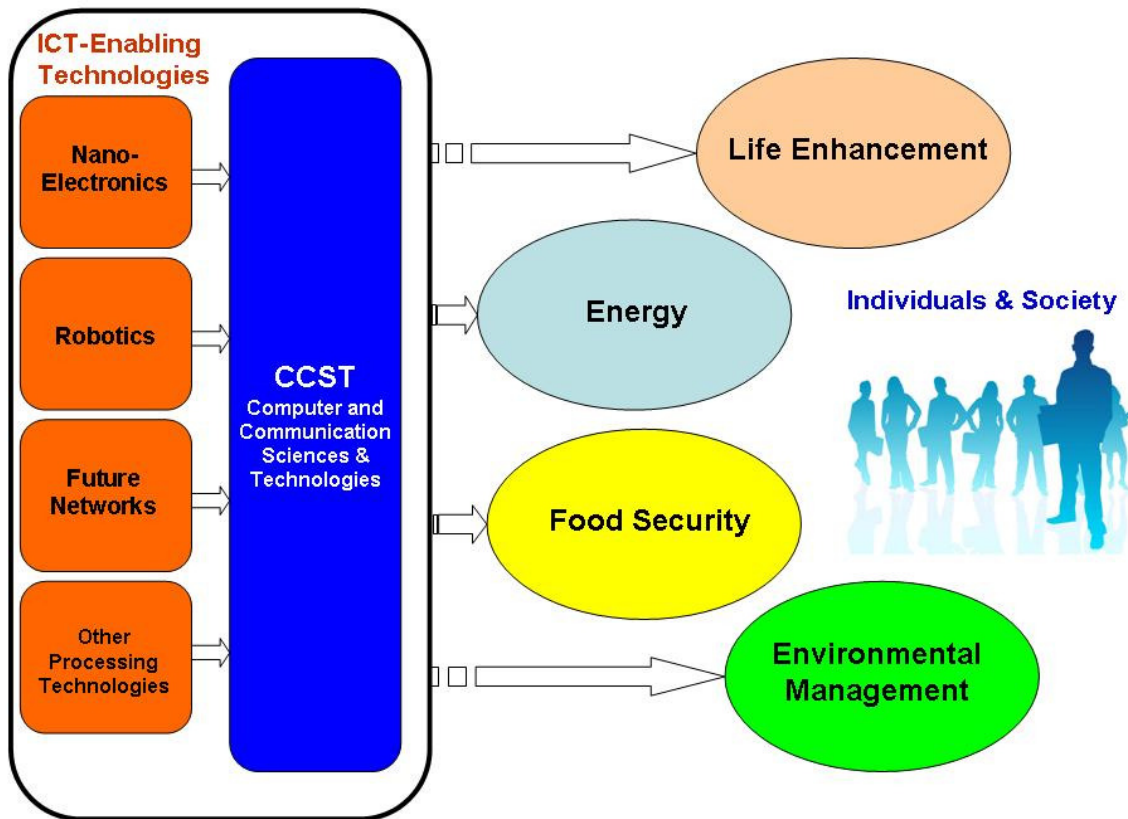
- **Exploratory/Strategic Workshops:** to explore future scientific or societal needs, support policy developments or stimulate innovative activities

What was funded by in 2009?

- 242 COST Actions
- 900 workshops and meetings (4.3 per working day over the year) with more than 29500 participants
- 1200 STSMs with an average duration of 3 weeks (5.6 STSMs starting every working day over the year)
- 90 Training Schools with more than 2000 funded participants
- 100 publications

Harnessing the Digital Revolution

Foresight 2030

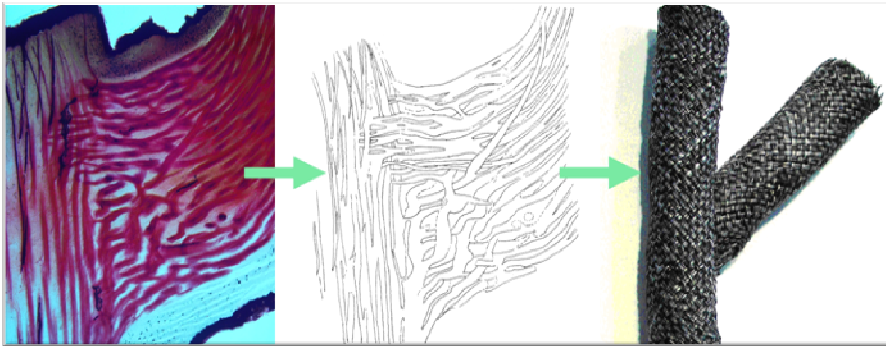


- **COST Strategic Workshops**
- Explore a broadly-shared vision for a future world beyond 2030 permeated and shaped by the Digital Revolution
- Series of events presenting long-term perspectives in the following selected fields:
 - **Computer and Communication Sciences and Technologies (CCST),**
 - **Life Enhancement, Energy, Food Security, Natural Resources Management and**
 - ***Organization of European Society***

More Information

http://www.cost.esf.org/events/foresight_2030_ccst-ict

Principles and Development of Bio-Inspired Materials 13-15 April 2010, Vienna, Austria



The aim of the **COST Strategic Workshop** is to provide a forum to stimulate interactions between relevant disciplines including biology, materials science, biomimetics, engineering and physics.

The Workshop will be organised along three main themes:

- Material Design Strategies of Nature
- Implementation of Biological Concepts (Abstraction and Translation)
- Applications

More Information

www.cost.esf.org/events/biomat
www.map.boku.ac.at/workshopBIOMAT.html

Workshop Chair
Stefanie Tschegg
 University of Natural Resources and Applied Life Sciences Vienna, BOKU, AT

Co-Chair
Robin Seidel
 University of Freiburg, DE

Steering Committee
Francesca Cosmi
 Università di Trieste, IT
Rainer Erb
 BIONIKON, DE

George Jeronimidis
 University of Reading, UK

Julián Martínez Fernández
 Universidad de Sevilla, ES

Thomas Rosenau
 BOKU, AT

Lennart Salmen
 STFI, SE

Thomas Speck
 University of Freiburg, DE

Sybrand van der Zwaag
 Delft University of Technology, NL



Network or perish: A gender perspective on access to project funding and management

Panel discussion, followed by interactive round tables on the following themes:

- Identifying how to enhance a proactive participation of women in funded research projects
- Exploring the relation between women scientists' participation in research funding and the importance of networking
- Discussing the role of networking during the preparation stages of applications as well as throughout the project phase, e.g. regards the distribution of project tasks and in reaching positions in

Chair

Caroline Whelan
COST Office, BE

Moderator

Heather K. J. van der Lely
Department of Psychology, Harvard University, Vice-Chair COST Action A33, USA

Panellists

Martin Grabert
COST Office, BE

Maren Jochimsen
EPWS, BE

Britta Thomsen
Group of the Progressive Alliance of Socialists and Democrats in the European Parliament, DK

Luisa Prista
European Commission, DG Research, BE



More Information
www.cost.esf.org/events

Future Internet and Society: A Complex Systems Perspective, 2-7 October 2010, Italy

This conference will bring together experts in Information and Communication Technologies (ICT), social scientists, as well as experts in the area of complex systems. They will assess the state-of-the-art, identify new trends and envision future developments in the intertwined domains of future Internet and society.

Topics that will be covered in the conference include:

- Internet topology and modelling
- Complex techno-social networks
- Modelling of collective social behaviour
- Social and human dynamics
- Spreading and epidemics in techno-social systems
- Virtual social systems
- Co-evolution of Internet and society
- Internet as a socio-economical system
- Mobile social networks
- Internet enabled applications and business
- Future Internet as a techno-social system.

Full conference programme and application form are accessible online from www.eu/conferences/10341

Closing date for applications: **9 June 2010**



Chair

Romualdo Pastor-Satorras

Universitat Politècnica de Catalunya, ES

Co-Chair

Claudio Castellano

Sapienza Università di Roma, IT

Programme Committee:

Thibaut Lery

European Science Foundation, FR

Caroline Whelan

COST Office, BE

Alain Peyraube

CNRS, Paris, FR

Peter Richmond

Trinity College Dublin, IE

Fabrizio Sestini

ESF-COST Office, BE

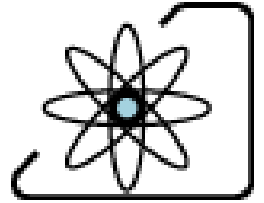
MPNS Action P10, The Physics of Risk (ended)

MPNS Action MP0801 Physics of Competition and Conflicts (ends 2012)

COST in FP7: Highlights

- **Early stage researchers (i.e. PhD + <10 years)**
 - Open Call participation
 - Increased duration of Short Term Scientific Missions (STSMs)
 - More Training schools
 - Increased involvement in existing COST Activities:
 - Outreach and profiling
 - Pilot schemes (e.g. Australia and New Zealand)
- **Joint activities**
 - High Level Research Conference (COST-ESF)
 - Frontiers of Science Workshops (COST-ESF)
 - Strategic Workshops and Science Initiatives
 - Outreach Activities (e.g. ESOF2008)

COST-MPNS Domain



Materials, Physical and Nanosciences

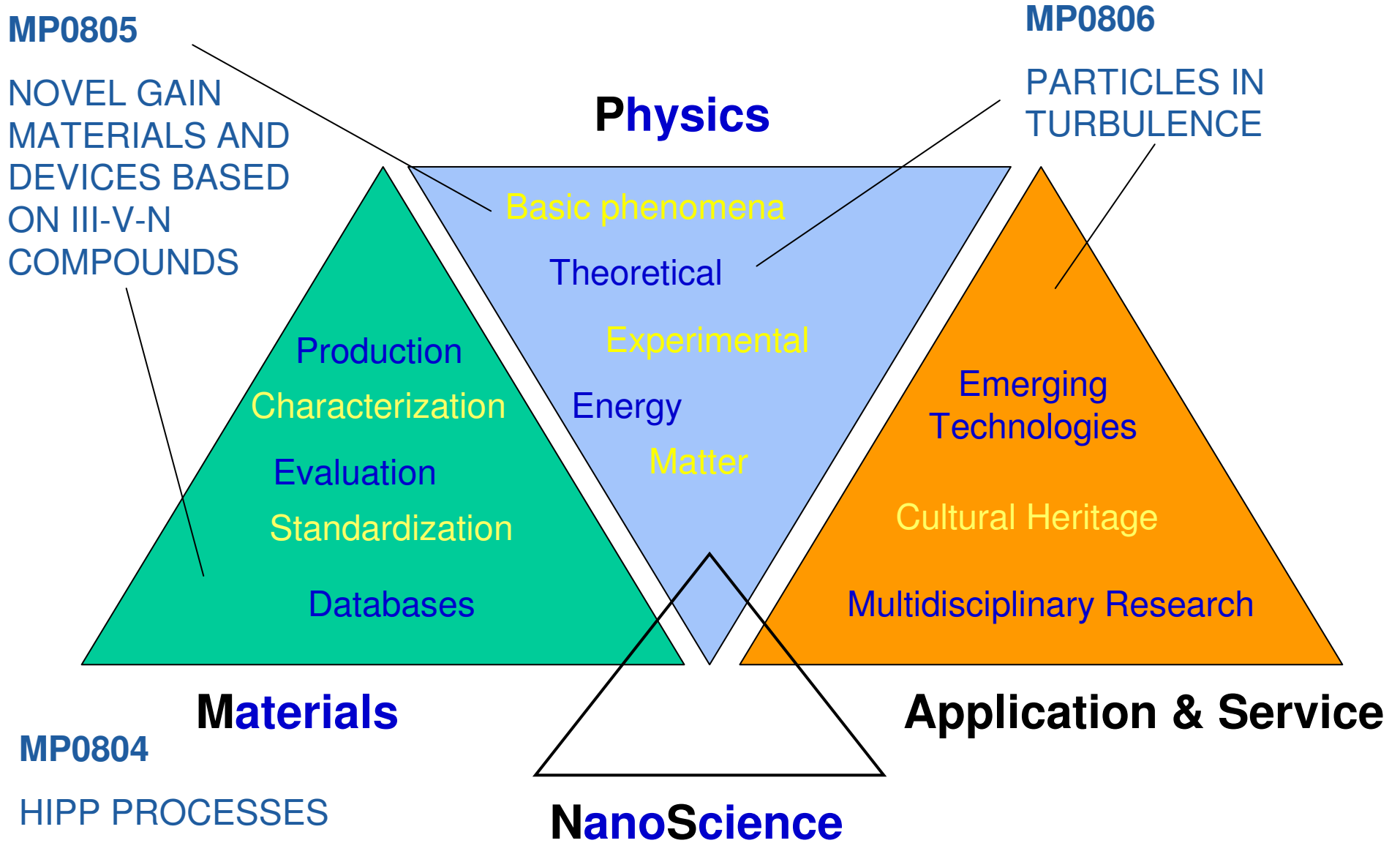
Domain Committee Chair:
Prof. Eva OLSSON

Domain Committee Vice-Chair:
Dr. Anthony FLAMBARD

Domain Science Officer:
Dr. Caroline WHELAN

Natural Science Cluster Junior SO
Dr. Lucia FORZI

MPNS Domain – Thematic Areas and New Actions



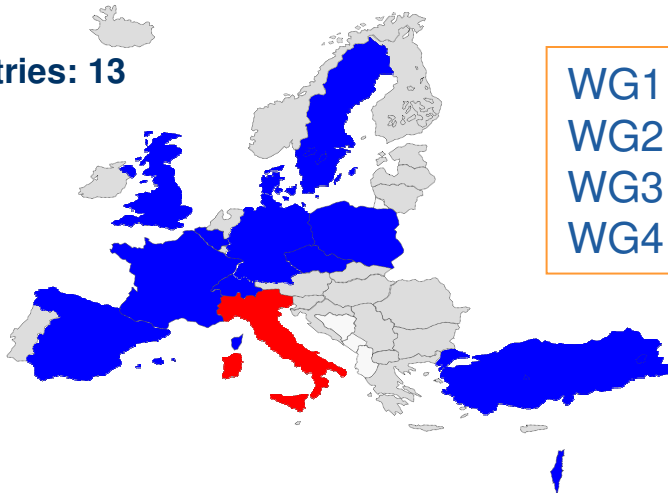


MP0903 NANOALLOY – Nanoalloys as advanced materials: from structure to properties and applications

- Objectives
- Increase knowledge and understanding in bi- and multi-metallic nanoparticles (nanoalloys)
- To develop combined experimental/computational methodologies for designing nanoparticles with specific structures, properties and functions
- To contribute to the determination of phase diagrams of nanoalloys, to the development of controlled growth/synthesis protocols, and to the determination of catalytic, magnetic and optical properties of the nanoalloys of major interest in applications

Interested Countries: 13

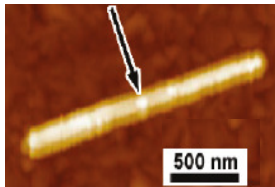
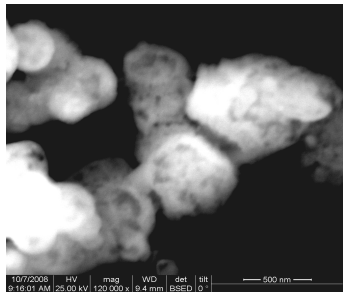
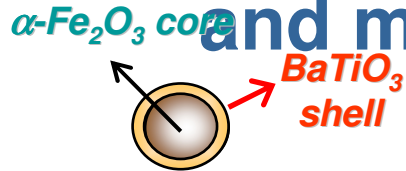
Proposer: **IT**
 BE, CH, CZ,
 DE, DK, ES,
 FR, IL, PL, SE,
 TR, UK



- WG1 Equilibrium properties and nanoalloy phase diagrams
- WG2 Growth/synthesis of nanoalloys
- WG3 Applications to catalysis
- WG4 Applications to magnetism and optics

MP0904 SIMUFER: Single- and multiphase ferroics

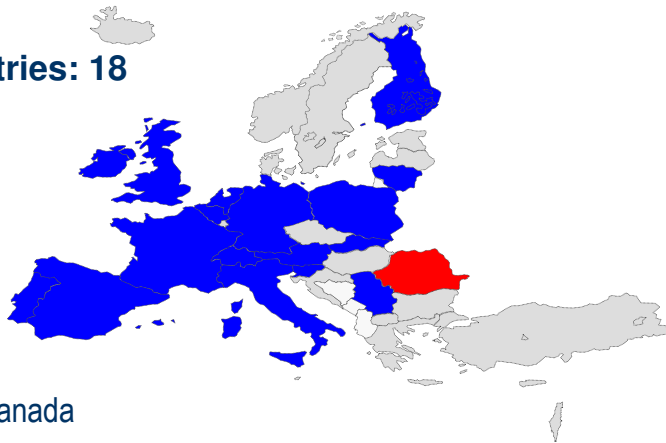
and multiferroics with restricted geometries



- Objectives
- To organize a multidisciplinary European scientific network of groups experienced in **synthesis**, advanced **characterization** and **modelling** of single-and multi-phase ferroic and multiferroic nanosystems

Interested Countries: 18

Proposer: **RO**
 AT, BE, FI, FR,
 DE, IE, IT, LT,
 NL, PL, PT, RS,
 SK, SI, ES, CH,
 UK



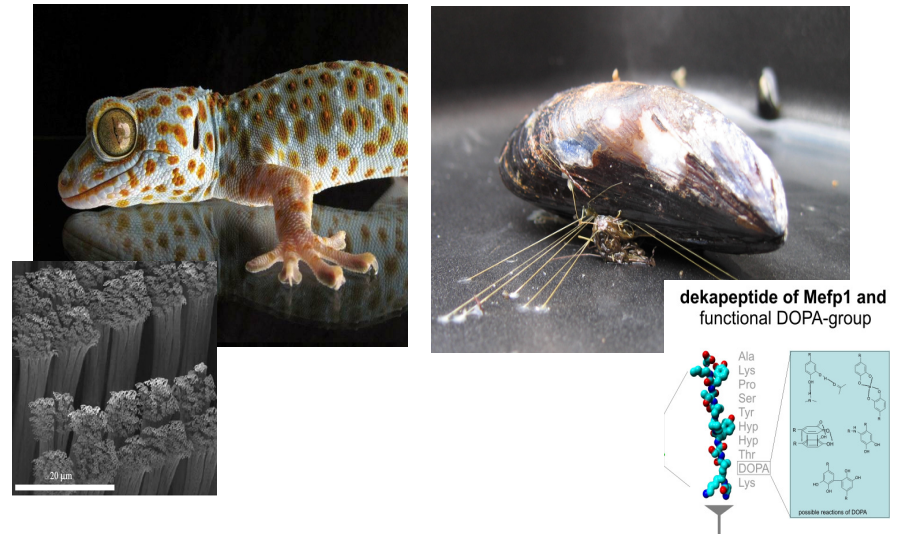
Non-COST: Brazil, Canada

- | | |
|-----|-------------------------------|
| WG1 | Novel ferroic nanostructures |
| WG2 | Single-phase multiferroics |
| WG3 | Ferroic-based composites |
| WG4 | Early stage researchers group |

COST Action TD0906 (MPNS, BMBS, CMST)

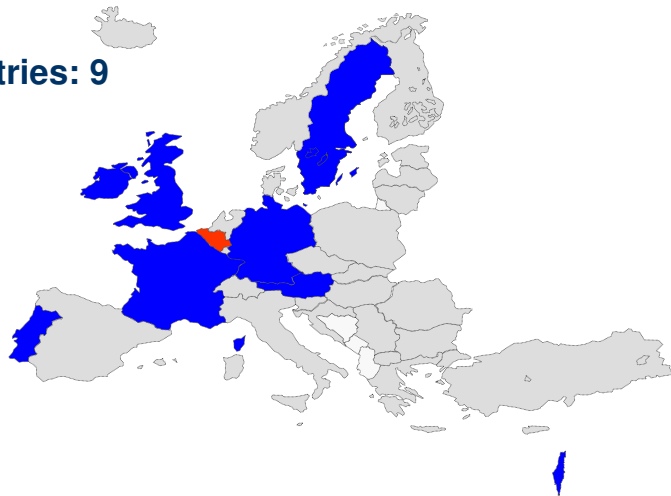
Biological adhesives: from biology to biomimetics

- Objectives
- To gain new understanding relating to the mode of action of biological adhesives so as to facilitate the development of synthetic counterparts with improved function.



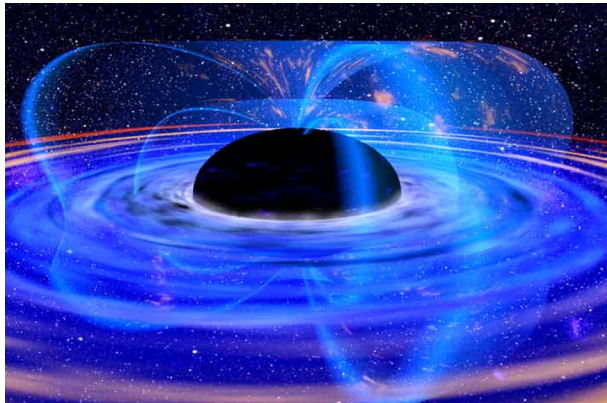
Interested Countries: 9

Proposer: **BE**
AT, FR, DE, IE,
IL, PT, SE, UK



- | | |
|-----|--|
| WG1 | Chemical characterization and synthesis of adhesives |
| WG2 | Structural characterization of natural and synthetic adhesives |
| WG3 | Mechanical testing and theory |
| WG4 | Fabrication of biomimetic adhesives and their evaluation |

MP0905 Black Holes (BH) in a Violent Universe

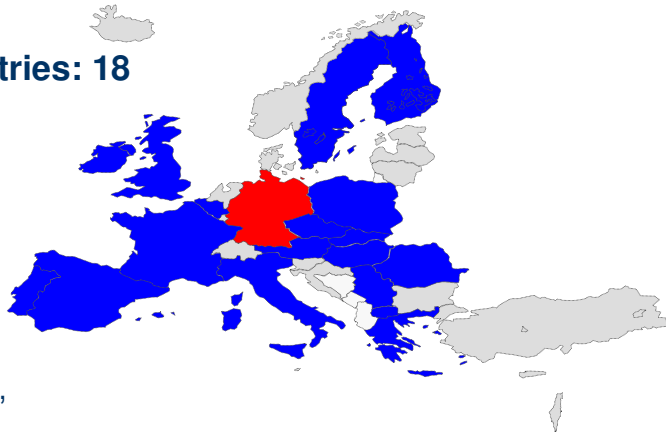


- Objectives
- To enhance the understanding of the BH-phenomenon and its impact on the evolution of our Universe
- To study the fundamental laws of nature using an multi-disciplinary and multi-dimensional approach of BH research
- To use BHs as laboratories to test new physical concepts

Interested Countries: 18

Proposer: **DE**
 AT, BE, CZ, ES,
 FI, FR, GR, HU,
 IE, IT, PL, PT,
 RO, RS, SI, SE,
 UK

Non-COST: Australia,
 Georgia, Lebanon,
 Russia, South Africa



WG1	Quantum Black Holes
WG2	Stellar Black Holes & Pulsars
WG3	The Galactic Centre
WG4	Supermassive Black Holes

COST-ICT Domain



Information and Communication Technologies

Domain Committee Chair:
Prof. Soulla LOUCA

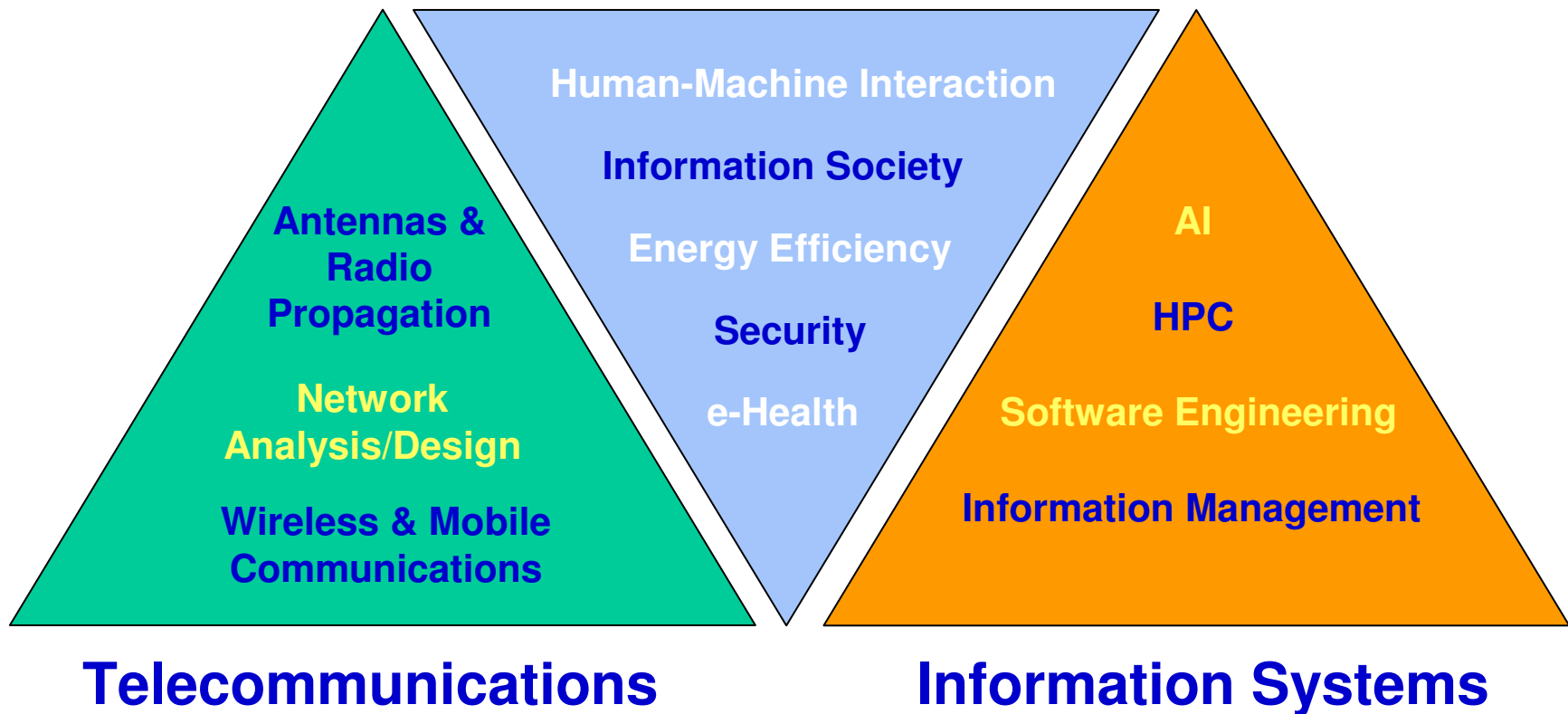
Domain Committee Vice-Chair:
Prof. Dina SIMUNIC

Domain Science Officer:
Dr. Gian Mario MAGGIO

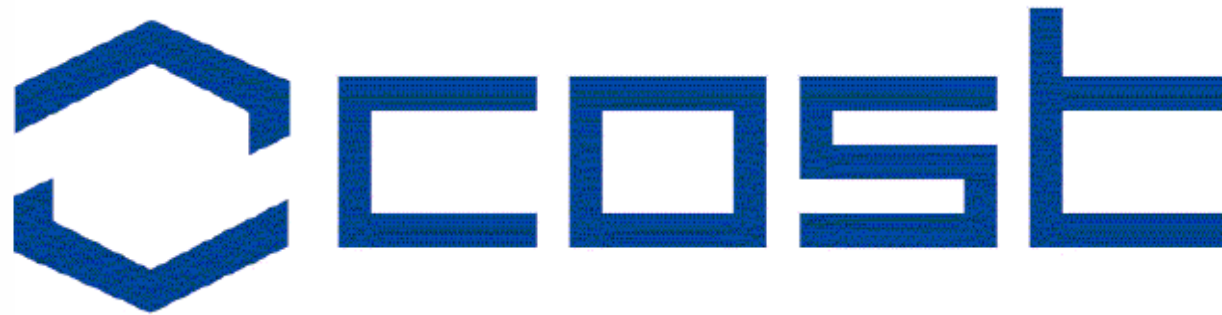


ICT Domain – Thematic Areas

e-Society



Thank you for your attention



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